King County
International Airport
Department of
Construction & Facilities Management
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September 8, 1999

TO: Mike Colmant, Assistant Airport Manager

FROM: Jeff Winter, Airport Engineer

RE: Northeast T-Hangars – Contaminated Soils

Here is a summary of the contaminated soils, which were found to date on the Northeast T-Hangars site:

8-13-99	Contractor noticed some petroleum smelling and dark stained soil under the east end of Hangar A while digging for foundation. (Area 1 on the attached sketch) The material was left in a pile (pile 1) until sampling and testing could be done. Late that same day, some green stained soil and tar globs were found in area 2 at the west end of Hangar C as the drainage manhole was being installed.
8-14-99	Olympus Environmental came out and did some field screening work at area 1 so that the extent of the contamination could be better known. They took some samples for testing of both areas from the hole areas and from the stockpiles.
8-16-99	Contractor found some more green stained soil in area 3 while excavating for another new manhole.
8-17-99	Contractor found some more green stained soil in area 5 just a foot down.
8-18-99	Olympus reported sampling results. Area 1 clean enough, but pile 1 had 1200 ppm heavy oil level (200 ppm is the threshold). Since the pile 1 was in the way and the contamination level would not readily clean up by aeration methods, it was decided to haul this out to TPS Techologies, Inc. in Tacoma for thermal treatment. The green stained soil was old paint and was found not to be a problem. But samples from area 2 and 3 had results of 790 ppm and 5600 ppm of heavy oil respectively on the side walls of the holes.
8-19-99	Started hauling contaminated soil from pile 1 to TPS.

8-20-99 Olympus out to field screen for limits of contamination at areas 2 and 3. Contractor found more contamination while excavating at area 4. Olympus did field screening to determine limits of contamination at area 4 and took samples form areas 2,3 and 4 and piles 2B (the secondary material taken during field screening work done this day from areas 2 and 3), 4A and 4B for testing. More hauling of soil to TPS from pile 1and pile 2A (the original material taken from areas 2 and 3 prior to the field screening work done this day).

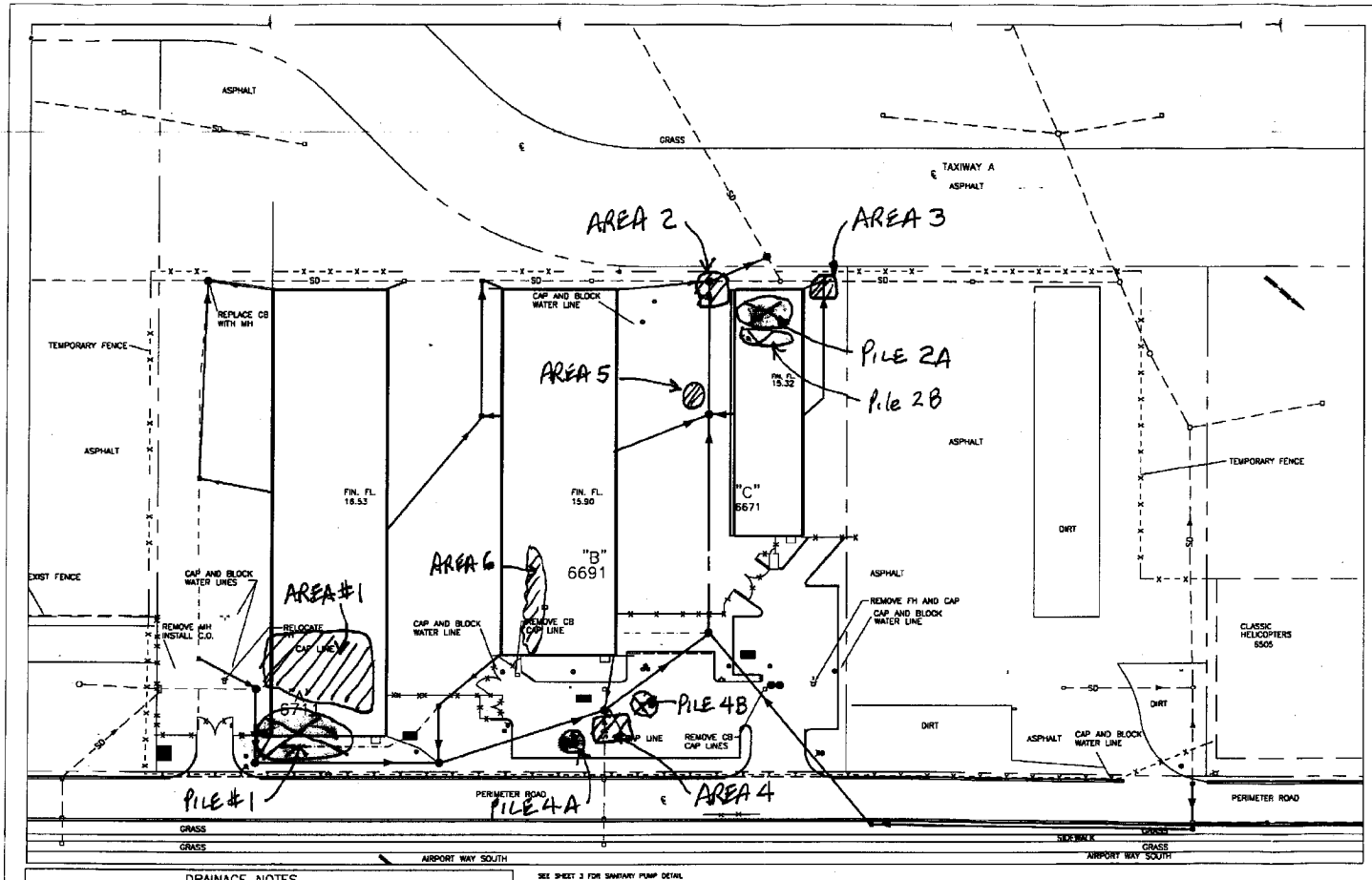
8-23-99 Olympus reported the results for areas 2,3 and 4 and piles 2B (the secondary material taken during field screening work done this day from areas 2 and 3), 4A and 4B all were below the cleanup levels. As a precaution, the piles of material were not placed back on the t-hangar site, but were hauled up to the north end of the airport for disposal.

8-31-99 Contractor claimed to have found more contamination while over-excavating for the foundation at Hangar B at area 6. Olympus was called and they came out and did some field screening work and determined that there was no detectable contamination.

No other contamination has been found though the contractor has dug 7 foot deep trenches for the east ends of all three hangars as part of the foundation improvement work.

The cost are not fully known except the cost for testing and treatment are up to $23,000 with the contractors cost of excavation, trucking and delays still to be determined. My estimate is that it will be close to $30,000.

Cc: Mike Hamm, Airport Maintenance Manager



CONSTRUCTION SEQUENCE IS AS FOLLOWS:

1. ARRANGE & ATTEND PRE-CONSTRUCTION MEETING WITH KING COUNTY SITE DEVELOPMENT INSPECTOR.
2. INSTALL ROCK CONSTRUCTION ENTRANCE.
3. CONSTRUCT INLET FILTERS.
4. ROUGH GRADE PER SITE PLAN.
5. INSTALL UTILITIES & INSTALL ADDITIONAL INLETS FILTERS ON NEW CATCH BASINS AS NEEDED.
6. POUR BUILDING SLABS & PAVE SITE.
7. CONSTRUCT BUILDINGS.
8. COMPLETE SITE LANDSCAPING.
9. COMPLETE REMAINING CONSTRUCTION.
10. REMOVE THE TEMPORARY EROSION/SEDIMENTATION CONTROL ONLY AFTER SITE HAS BEEN STABILIZED AND KING COUNTY SITE DEVELOPMENT INSPECTOR HAS APPROVED THE REMOVAL.
11. CLEAN UP THE NEW DRAINAGE SYSTEM.

SYMBOL EXIST	SYMBOL NEW	DESCRIPTION
		FENCING - TEMPORARY
		FENCING - PERMANENT
		PROPERTY (LEASE) LINE
	A	AIR LINE
	RL	RAIN LEADER
E	E	ELECTRICAL LINE
T	T	TELEPHONE LINE
SD	SD	STORM DRAIN
SS	SS	SANITARY SEWER
W	W	WATER LINE
		ABANDONED LINE
		BUILDING
		CONCRETE PAVEMENT
		ASPHALT PAVEMENT
○ CB	■ CB-7	CATCH BASIN
○ MH	● MH-1	MANHOLE
		CONCRETE CURB
□ HH		ELECTRICAL HANDHOLE
FH	FH	FIRE HYDRANT
GV	GV	GATE VALVE
WM	WM	WATER METER
FL		STREET LIGHT
TP	TP	TRANSFORMER PAD
	SV	SPRINKLER VAULT
	FDC	FIRE DEPT CONNECTION

DRAINAGE NOTES

STRUCTURE	TOP ELEV.	INVERT DATA
CB-1	15.81	EX. 8" SD OUT 13.27'
MH-2	15.94	6" SD IN 12.62', EX. 8" SD IN 12.60', 8" RL IN 12.60', 8" LINE IN 12.60', EX. 8" SD OUT 12.24'
CB-3	15.83	6" RL IN 13.30', 8" SD OUT 13.25'
CB-4	13.10	EX. 8" SD IN 11.45', 6" RL IN 11.45', EX. 8" SD OUT 11.45'
CB-5A	15.85	8" SD IN 11.25', 8" SD IN 11.40', 6" LINE IN 11.40', EX. 8" SD OUT 11.25'
CB-5B	15.77	EX. 8" SD IN 10.98', EX. 8" SD OUT 10.98'
CB-6	15.98	8" RL IN 12.84', 6" RL IN 11.80', 8" SD OUT 11.64'
MH-7	15.36	CL 8" SD IN 10.38', 6" RL IN 12.28', 12" SD IN 10.38', EX. 8" SD OUT 10.33, 18" SD OUT 10.23'
MH-8	15.12	18" SD IN 10.06', 18" SD IN 10.10', 16" SD OUT 10.06'
MH-9	13.39	6" RL IN 13.30', 8" SD IN 12.48', 12" SD IN 11.00', 12" SD OUT 11.00'
CB-10A	13.21	8" SD IN 10.19', 8" SD OUT 10.19', 18" SD OUT 10.10'
CB-10B	15.20	8" SD IN 10.10', 12" SD IN 10.10', EX. 8" SD IN 10.0', EX. 8 SD OUT 10.0'
MH-11	14.70	12" SD IN 12.05', 18" SD IN 12.05', 12" SD OUT 12.00'
MH-14	15.81	12" SD IN 12.38', 8" RL IN 12.88', 12" SD OUT 12.33', EX. 8" SD IN 13.16'
MH-17	17.00	18" SD IN 12.81', 12" SD IN 12.81', 12" SD OUT 12.78', 8" RL IN 13.80'
CB-18	15.26	6" RL IN 13.06', 8" SD OUT 13.01'
MH-19	15.40	12" SD IN 13.28', 8" RL IN 13.28', 12" SD OUT ,13.21'
MH-20	15.38	8" SD IN 13.28', EX. 12" SD IN 13.28', 12" SD OUT 13.42'
CB-21	13.83	8" SD OUT 13.68'
CB-22	18.00	12" SD IN 12.68', 12" SD OUT 12.48'
CB-23	17.30	8" SD IN 13.07', 12" SD OUT 13.06'
CB-24	17.30	8" SD IN 13.50', EX. 8" SD IN 13.10', 8" SD OUT 13.07'
CB-25	17.30	8" SD OUT 13.75'

SEE SHEET 3 FOR SANITARY PUMP DETAIL

ALL RAINLEADER PIPES SHALL BE SLOPED AT 1.0% MIN AND SHALL HAVE 2' COVER MIN.

CP = CONCRETE PIPE
DIP = DUCTILE IRON PIPE

PIPE	LENGTH	DIAM/TYPE	SLOPE
CB-1 to MH-2	108'	8"/CP	0.60%
CB-3 to MH-2	108'	8"/CP	0.60%
MH-2 to CB-4	109'	8"/CP	1.00%
CB-4 to CB-5A	45'	8"/CP	0.50%
CB-6 to CB-5A	73'	8"/CP	0.60%
CB-5A to CB-5B	60'	8"/CP	0.50%
CB-5B to MH-7	66'	8"/CP	0.76%
CB-21 to MH-20	34'	8"/DIP	0.60%
MH-20 to MH-19	38'	12"/CP	0.40%
MH-19 to MH-17	100'	12"/CP	0.40%

PIPE	LENGTH	DIAM/TYPE	SLOPE
CB-18 to MH-17	20'	12"/CP	0.60%
MH-17 to MH-14	84'	12"/CP	0.40%
MH-14 to MH-11	70'	12"/CP	0.40%
CB-23 to CB-24	22'	8"/CP	0.60%
CB-24 to CB-23	2'	8"/CP	1.00%
CB-23 to CB-22	128'	12"/CP	0.30%
CB-22 to MH-11	138'	12"/CP	0.30%
MH-11 to MH-9	178'	12"/CP	0.80%
MH-9 to MH-7	77'	12"/CP	1.00%
MH-7 to MH-8	32'	18"/CP	0.40%

CONTAMINATED SOILS 9.9.99

FILE: \NET-HANGARS\SITE CONTRACT #: C93022C

KING COUNTY INTERNATIONAL AIRPORT
BOEING FIELD SEATTLE, WASHINGTON

NORTHEAST T-HANGARS

UTILITY PLAN

BY	DATE	REVISIONS
		CHANGE

APPROVED Cynthia Stewart, AIRPORT MANAGER; Jeffrey W. Winter, P.E., AIRPORT ENGINEER

DRAWN DAVID SPENCER, JEFF WINTER DATE 12-28-98

SCALE HORIZONTAL 1" = 30' VERTICAL AS NOTED

JOB NO. 98-102

SHEET 2 OF 11

KCSlip4 36090

SEA402635